

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

D1 | 1. A portable multi-band communication device, comprising:
a controller for generating a control signal strobe,
a radio transmitter controllable using the control signal strobe,
a power amplifier, operatively connected to the radio transmitter, and
a battery for supplying power to the power amplifier, and
wherein the a controller is arranged to:

control an output power level of the communication device by generating a digital control signal for the power amplifier,
monitor the digital control signal, and
to determine a specific amount of electric energy consumed from the battery based on from the monitored digital control signal and the detected control signal strobe.

2. (Previously Presented) A portable multi-band communication device as in claim 1, further comprising:

a (digital-to-analog) (D/A) converter operatively connected to the power amplifier and arranged to receive, as an input, the digital control signal, convert the digital control signal into an analog control signal, and provide the analog control signal to the power amplifier.

3. (Previously Presented) A portable multi-band communication device as in claim 1, further comprising:

a memory operatively connected to the controller is adapted to store a set of predetermined consumption values associated with different values of the digital control signal.

4. (Previously Presented) A portable multi-band communication device as in claim 3, further comprising:

a radio transmitter controlled through a control signal strobe submitted by the controller, wherein the controller is arranged to:

detect the control signal strobe to the radio transmitter,

determine a value of the digital control signal,

form an index from the determined value of the digital control signal,

use the index for reading one consumption value in the predetermined set from the memory, and

update an accumulated consumption value to reflect the consumption value thus read.

5. (Previously Presented) A portable multi-band communication device as in claim 3, further comprising:

a radio transmitter is controlled through a control signal strobe submitted by the controller the memory having a set of counters) for different values of the digital control signal, wherein the controller is arranged to:

detect the control signal strobe to the radio transmitter,

determine a value of the digital control signal,

increment, in said set of counters, the counter that represents the determined value of the digital control signal, and

subsequently calculate the consumption of electric energy from the battery from the contents of said set of counters and from the set of predetermined consumption values.

6. (Previously Presented) A portable multi-band communication device as in claim 3, wherein the set of predetermined consumption values is represented by a polynomial function.

7. (Previously Presented) A portable multi-band communication device as in claim 1, the device further comprising:

a graphical display , wherein the controller is arranged to calculate an estimated remaining battery capacity by subtracting the determined consumption of electric energy from a previous value of remaining battery capacity, and wherein the controller is arranged to visually indicate the calculated estimated remaining battery capacity on the graphical display.

8. (Previously Presented) A portable multi-band communication device as in claim 1, wherein the device is a mobile telephone, employing TDMA, or W-CDMA.

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9. (Previously Presented) A method of determining a charge consumption for a portable battery-powered communication device including a radio transmitter, a power amplifier operatively connected to the radio transmitter, and a controller operatively connected to the power amplifier, wherein an output power level of the radio transmitter is controlled by the power amplifier through a digital control signal from the controller, and wherein the radio transmitter is furthermore responsive to a control signal strobe , the method comprising:

storing a set of predetermined consumption values providing an association between different amounts of electric charge consumption and respective values of the digital control signal,

detecting the control signal strobe ,

determining a value of the digital control signal,

selecting, from said set of predetermined consumption values, a value which corresponds to the determined value of the digital control signal, and

updating an accumulated charge consumption value to reflect the selected value.

10. (Previously Presented) A method according to claim 9, applied to a mobile telephone.

11. (New) A portable multi-band communication device according to claim 2, wherein the controller is arranged to:

keep track of the number of times that the control signal strobe has occurred for different values of the digital control signal, and

determine the total amount of electric energy consumed caused by control signal strobes during a given period of time.

12. (New) A portable multi-band communication device, comprising:

a power amplifier controlled by a digital control signal;

a battery for supplying power to the power amplifier;

a memory for storing an association between different power consumption values and respective digital control signal values; and

a controller arranged to:

control an output power level of the communication device by generating the digital control signal,

monitor the digital control signal for the power amplifier, and

determine an amount of electric energy consumed from the battery based on at least one power consumption value stored in the memory, said at least one power consumption value being associated with a value of the monitored digital control signal.

13. (New) A portable multi-band communication device as in claim 12, further comprising:

a digital-to-analog converter operatively connected to the power amplifier and arranged to receive as an input the digital control signal, convert the digital control signal into an analog control signal, and provide the analog control signal to the power amplifier.

14. (New) A portable multi-band communication device as in claim 12, further comprising:

a radio transmitter controlled through a control signal strobe submitted by the controller,

wherein the controller is arranged to:

detect the control signal strobe to the radio transmitter,

determine a value of the digital control signal,

form an index from the determined value of the digital control signal,

use the index for reading one consumption value stored in the memory, and

update an accumulated consumption value to reflect the consumption value read from the memory.

15. (New) A portable multi-band communication device as in claim 12, further comprising:

a radio transmitter is controlled through a control signal strobe submitted by the controller, and

a set of counters for different values of the digital control signal,

wherein the controller is arranged to:

detect the control signal strobe to the radio transmitter,

determine a value of the digital control signal,

increment, in said set of counters, the counter that represents the determined value of the digital control signal, and

subsequently calculate the consumption of electric energy from the battery from the contents of said set of counters and from the consumption values.

16. (New) A portable multi-band communication device as in claim 12, wherein the consumption values are represented by a polynomial function.

17. (New) A portable multi-band communication device as in claim 12, further comprising:

01 a graphical display, wherein the controller is arranged to calculate an estimated remaining battery capacity by subtracting the determined consumption of electric energy from a previous value of remaining battery capacity, and wherein the controller is arranged to visually indicate the calculated estimated remaining battery capacity on the graphical display.

